

## **REMARKS**

Claims 1-38 are now pending in the application. Claims 1, 3-5, 7-8, 11, 13-14, 16-18, 22-232 and 34 are now amended. Claims 37-38 are new. Support for the amendments to the claims and the new claims can be found throughout the drawings and specification. As such, no new matter is added. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

### **REJECTION UNDER 35 U.S.C. § 102**

Claims 1-9, 11-19 and 21-36 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Merchant et al. (U.S. Pat. No. 6,385,715). This rejection is respectfully traversed.

With respect to amended Claim 1, Merchant does not at least show, teach or suggest selectively setting a state of an instruction in a recirculation queue to one of a blocked state and an unblocked state if completion of the instruction is prevented by a detected blocking condition.

As best understood by Applicants, Merchant includes a loading controller 154 that determines whether an instruction should be replayed via a replay loop 156 or enqueued in a replay queue. If the instruction is a long latency instructions, the loading controller enqueues it in a replay queue 170, otherwise the instruction is reissued via the replay queue. Column 6, Lines 12-17, Column 7, Lines 10-13 and Column 8, Lines 13-18 and FIG. 1 of Merchant.



inherent or expressly disclosed and must be arranged as in the claim. Constant v. Advanced Micro-Devices, Inc., 7 USPQ.2d 1057 (Fed. Cir. 1988). Merchant does not at least show, teach or suggest selectively setting of a state of an instruction in the recirculation queue to one of a blocked state and an unblocked state when the instruction is blocked by a blocking condition.

Therefore, Claim 1 is allowable for at least these reasons. Claims 11, 21, 26 and 31 are allowable for at least similar reasons as Claim 1. Claims 2-10, 12-20 and 27-36 ultimately depend from Claims 1, 21 and 26 and are allowable for at least similar reasons.

Further, with respect to Claim 21, Merchant does not at least show, teach or suggest that instructions having a transient blocking condition are enqueued onto the recirculation queue in the unblocked state.

According to the Examiner, a recirculation queue includes "the combination of loop 156 and queue 170, starting at controller 154." Page 7 of the Office Action. However, as best understood by Applicants, the replay queue 170 of Merchant is a standard queue where commands are sent to await reissue. **The replay loop 156 of Merchant is not part of the replay queue 170.** FIG. 1 of Merchant. The replay loop 156 of Merchant sends commands for immediate reissue through staging queues. In other words, Merchant does not store transiently blocked instructions in the replay queue 170.

Instead, Merchant either stores blocked instructions in the replay queue 170 (if they are long latency instructions) or sends instructions for reissue in the replay loop 156 (if they are blocked but not long latency instructions). Therefore, at no point does Merchant enqueue blocked instructions in an unblocked state in the replay queue 170,

as is done in Claim 21. Instructions in the replay queue 170 of Merchant may be released, but that is not the same as *enqueueing* instructions in an unblocked state. In Claim 21, instructions may be stored in the recirculation queue in a blocked and unblocked state. All instructions in a queue will be eventually released, therefore it is clear that the unblocked state referred to in Claim 21 does not refer to merely releasing an instruction for reissue.

When evaluating claims under 35 U.S.C. § 102(b), all of the limitations must be considered and given weight. Here, it is clear that the Examiner has given little or no consideration of the limitation **and failed to give the limitation any weight.**

Claim 21 is therefore believed to be allowable for at least this additional reason.

#### **REJECTION UNDER 35 U.S.C. § 103**

Claims 10 and 20 stand rejected under 35 U.S.C. § 103(a) over Merchant in view of Official Notice. This rejection is respectfully traversed.

With respect to Claim 10, as best understood by Applicants, Merchant and the Official Notice do not show, teach or suggest that the recirculation queue is a first in, first out (FIFO) circular queue. As best understood by Applicants, the Examiner asserts that a recirculation queue includes “the combination of loop 156 and queue 170, starting at controller 154.” Page 7 of the Office Action. In other words, the Examiner appears to be asserting that the “recirculation queue” of Merchant is not a FIFO circular queue.

It is a longstanding rule that to establish a prima facie case of obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 143 (CCPA 1974), see MPEP §2143.03. Here, the

Examiner fails to provide **any** reference that teaches or suggests that the recirculation queue is a FIFO circular queue as recited in Claim 10. Furthermore, when evaluating claims for obviousness under 35 U.S.C. §103, all of the limitations must be considered and given weight. Ex parte Grasselli, 231 USPQ 393 (Bd. App. 1983), MPEP § 2144.03. Here, it is clear that the Examiner has given little or no consideration of the limitation and has failed to give the limitation any weight.

In the statement of rejection, the Examiner asserts that that circular FIFO recirculation queues are within the common knowledge of skilled artisans. While Applicants recognize that the Examiner is entitled to support a rejection based on common knowledge in the art, Applicants respectfully submit that the Examiner can only take official notice of facts outside of the record which are capable of instant and unquestionable demonstration of being “well-known” in the art. See, MPEP § 2144.03, In re Knapp Monach Co., 132 USPQ 340, 341 (CCPA 1973).

If the Examiner is basing the rejection on personal facts known to the Examiner, Applicants respectfully request that the Examiner provide an affidavit to support those facts. See MPEP 2144.03; 37 CFR 1.104(d)(2). Alternatively, Applicants respectfully request that a reference be provided to support an assertion that that a recirculation queue that is a FIFO circular queue is within the common knowledge of skilled artisans. Here Merchant puts long latency instructions in a replay queue and reissues other instructions in a replay loop. The Examiner combines the replay loop and replay of Merchant to arrive at the recirculation queue of Claim 10 and then asserts that Merchant could substitute both replay loop and replay queue for a circular FIFO queue. If both replay loop and replay queue were combined, Merchant would lack any means for distinguishing long latency instructions from other instructions in a circular FIFO

queue, and all instructions would be similarly delayed. **Merchant, therefore, teaches away from combining the replay loop and replay queue to arrive a circular FIFO queue as proposed.**

Moreover, common modes of modifying systems (such as in Merchant) to provide reissue of instructions do not include recirculation queues that are FIFO circular queues that handle both blocked and unblocked instructions (Claim 10 also includes the elements of Claim 1 through dependency). Instead, typical systems like Merchant merely add other means of issuing instructions, such as adding a replay loop in addition to a replay queue. Therefore, Applicants respectfully submit that Merchant falls short of the aforementioned “unquestionable demonstration” that is required.

As to Merchant teaching away from the combination, a reference must be considered for all that it teaches including disclosures that point towards the invention and disclosures that teach away from the invention. In re Dow, 5 USPQ.2d 1529 (Fed. Cir. 1988). It is improper to take teachings in the prior art out of context and give them meanings that they would not have to those skilled in the art. In re Wright, 9 USPQ.2d 1649 (Fed. Cir 1989). It is impermissible to pick and choose from a reference on so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what the reference fairly teaches to one skilled in the art. Bausch & Lomb, Inc. v. Barnes-Hind, Inc., 230 USPQ 416 (Fed. Circ. 1986). The problem solved by Merchant, including issuing non-long latency instructions immediately while enqueueing long latency instructions, would only be hampered by the combined queue proposed by the Examiner. Merchant teaches multiple instruction reissue paths, which is a teaching away of a single FIFO circular queue.

Claims 10 and 20 are therefore believed to be allowable for at least three additional reasons.

**NEW CLAIMS**

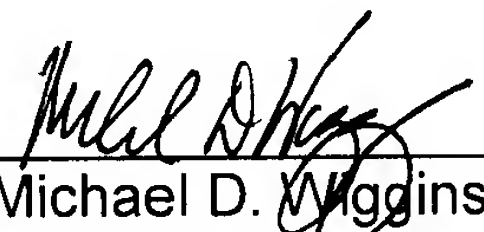
Claims 37-38 are new and are fully supported by the Claims and Detailed Description as filed, namely Paragraphs [00051]-[00052]. As such, no new matter has been added. Claims 37-38 are allowable for at least similar reasons as Claim 1.

## CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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